



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/956,972	09/21/2001	Takayuki Tsukamoto	214253US2SRD	7137

22850 7590 10/06/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

PSITOS, ARISTOTELIS M

ART UNIT	PAPER NUMBER
----------	--------------

2653

5

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/956,972

Applicant(s)

TSUKAMOTO ET AL.

Examiner

Aristotelis M Psitos

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) all is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2653

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed 5/6/03 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. This is with respect to the cited JP documents, which have not been considered. The article by Zhou has been considered.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 2653

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2653

10. Claims 1-3,6,11-13 and 16,and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hays et al or Psaltis et al each further considered with the alignment article (acknowledged prior art by applicant) or alternatively with MacAnally et al.

With respect to independent claims 1 and 11, Hays et al discloses in this environment (holographic storage medium position feedback control using a servo signal. There is a light source depicted, along with a beam splitter, spatial light modulator and appropriate mirrors, as well as the detector for providing the feedback control for positioning.

In Psaltis et al, a laser source 10 is similarly sent through the appropriate optical elements for providing the read out ability with respect to the holographic element. Psaltis et al also provides for feedback ability.

In both cases, it is not clear if the alignment signal is provided by the use of an alignment laser and appropriate optical elements necessary for such.

Nevertheless, as acknowledged by applicants, the Zhou article provides for such ability. Alternatively, MacAnally et al, also provides for a servo (coarse and fine) using lasers and optical elements of different wavelengths in order to generate such servoing control.

It would have been obvious to modify the base system of either Hays et al or Psaltis et al with the above teaching from either the acknowledged prior art of MacAnally et al, motivation is to provide for an appropriate alignment signal using already established elements and provide the appropriate feedback.

With respect to the limitations of claims 2, 12, 3 and 13, 6 and 16 they are considered inherently present in the above combination of elements and no further analysis is made with respect to thereto.

With respect to independent claim 21, this recites the mirror system, i.e., the reproducing system. Note in particular that Hays et al and Psaltis et al also provide for such.

11. Claims 4,14, 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1 and 11 above, and further in view of the acknowledged prior art.

With respect to these dependent claims, the acknowledged prior art with respect to DVD systems already provide for the appropriate wavelength.

Art Unit: 2653

It would have been obvious to modify the base system of the art as relied upon with respect to claims 1 and 11 and further modify such with the acknowledged prior art, motivation is to take affect of already established wavelengths (sources thereof) and hence save valuable resources such as time in recreating the desired wavelength recited, especially because such wavelengths are well known (as acknowledged by applicants) and hence would rely upon a ready source of such devices.

12. Claims 8,18,9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1 and 11 above, and further in view of Nakano.

With respect to the limitations in these claims, note that as acknowledged by the secondary teaching to MacAnally et al, the wavelengths need to be different.

Nakano teaches such wavelength restrictions as well as provided for an integral optical head arrangement for such capabilities.

It would have been obvious to modify the base system of the art as relied upon above with respect to the independent claims and further modify such with the teaching form Nakano motivation is to provide for the appropriate wavelength distinction(s) as recited, especially since wavelength separation is preferred in the secondary references for better signal separation and detection.

13. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 6 and 16 above, and further in view of Official notice.

As discussed in the above combination of references, the alignment light beam is necessarily provided for the ability of providing appropriate feedback position control. Although the documents do not specifically recite the incident angle and function provided thereto as recited in these claims, the examiner nevertheless considered such if not inherently present certainly obvious to those of ordinary skill in the art.

Since the entire exercise for the alignment ability is to provide for proper positioning feedback, it would be necessary to provide for as little interference between the read out of the information and the servo/alignment signals. Hence the appropriate angle therefore naturally follows. Again, if such is not inherently present in the above combination of elements, it would be obvious to those of ordinary skill in

Art Unit: 2653

the art, the motivation is to provide for signal separation and hence be able to detect the alignment/servo signal(s) accordingly.

14. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 2 and 12 above, and further in view of the article to Zhou et al.

Claims 10 and 20 require an appropriate angular relationship between the fringe pattern and the track. Such is considered to be inherently present in the Zhou et al document (due to the quad detection).

If applicants' can convince the examiner that such does not provide for the appropriate orientation of the fringe pattern then the examiner would rely upon well known quad detectors in this environment.

Alternatively, the use of quad detectors for detecting servo signals in this environment is considered well known and Official notice is taken thereof.

It would have been obvious to modify the base system of the references as relied upon with respect to claims 2 and 12 and modify such with quad detectors so as to provide for proper detection of the alignment/servo signal and hence provide for the positioning servo feedback ability.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining references are cited as illustrative of prior art holographic reconstruction systems.

Hard copies of the application files are now separated from this examining corps; hence the examiner can answer no questions that require a review of the file without sufficient lead-time.

Any inquiries concerning missing papers/references, etc. must be directed to Group 2600 Customer Services at (703) 306-0377.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M Psitos whose telephone number is (703) 308-1598. The examiner can normally be reached on M-Thursday 8 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

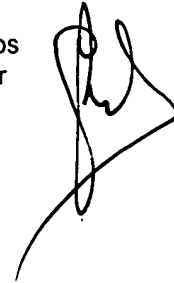
Application/Control Number: 09/956,972

Page 7

Art Unit: 2653

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Aristotelis M Psitos
Primary Examiner
Art Unit 2653

A handwritten signature in black ink, appearing to be 'A. Psitos', written over a horizontal line.

AMP